PRELIMINARY DESIGN PLAN CHECKLIST Updated: ~~7~~11/~~13~~14/11

County:_____ **Design No.:**_____ **By:**_____ **Date:**_____

Project Location: _____ **Consultant:**_____

1. GENERAL

1.1 Title Block

___ "Design For (xx Skew) (RA)(LA)"

___ Structure Type and Size and Beam Type (Ex.: "304'-0 x 40'-0 Prestressed Pretentioned Concrete Beam Bridge")

___ For bridges with multi-project staging, the structure width listed should be the width of the current stage plus all previously completed stages. (Ex.: if stage 1 construction is 20 ft. and stage 2 construction is 30 ft., the first project title block should show 20 ft. and the second project title block should show 50 ft.)

___ Span Description (Ex "101'-0 End Spans", "102'-0 Center Span")

___ Station of bridge at center of bridge (offset needed for duals)

___ Current TSL Date (Ex.: "December 2010")

___ County

___ "Iowa Department of Transportation - Highway Division"

___ "Design Sht. No. x of x", "File No.", "Design No."

___ Situation Plan

1.2 Location

___ Location: Road over road/stream

___ Federal Railroad Administration Identification No. (FRA) and Iowa crossing number

___ Township/Range (Ex.: "R-2W", "T-87N")

___ Section (Ex.: "36")

___ Latitude/Longitude at station of bridge at center of bridge (Ex. : "12.345678/-12.345678")

___ County

___ Bridge Maintenance Number

1.3 Traffic Estimate

___ Traffic data shown

1.4 Vertical Profile Data

___ Vertical curve data

1.5 Horizontal Profile Data

___ Horizontal curve data

1.6 Vertical Clearance Table

___ Include station/offsets/elevation (mainline/sideroad), deck thickness, haunch, beam depth, vertical clearance. Submit data if on super elevation

1.7 Utilities List Block

___ Utilities - add legend table and label each for all utilities shown on plan sheet

1.8 Recoverable Berm Location Table

___ Recoverable berm location table - show if necessary

1.9 Berm Slope Location Table

___ Berm slope location table

1.10 Hydrology & Hydraulic Data

___ Hydraulic data table – see data cell for appropriate application

1.11 Berm Slope ~~Revetment Protection~~Armoring ~~Details~~

___ ~~Revetment pP~~rovide typical ~~.~~ section showing embedded vs. non-embedded and table showing~~,~~ quantities for revetment, erosion stone, engineering fabric and ~~(include~~ class 10 excavation~~)~~. Show and lable 'grading surface'

1.12 Ground Control Grading

___ Provide coordinates if applicable

1.13 Signature Block

___ Consultant PE signature for Hydrology & Hydraulics – bridge over water/new RCB (does not include extensions)

1.14 Staging

___ Staging sequence details if required

1.15 Railroad Bridges

___ For all RR bridges, show macadam stone protection ~~and assume same during plan development~~

___ Minimum horizontal clearance dimension to pier

___ Crashwall for RR overpass (provide if center track to face column is less than 50')

___ Remember special 3'-8 rail for UP/BNSF RR bridges

___ UP/BNSF RR bridge, assume 10:1 trasition for barrier rail, as taller rail is required

___ UP/BNSF RR bridges, do not add fence on bridge barrier rail unless required by UP/BNSF RR

___ For UP/BNSF RR include bridge standard sheet 1067

___ Railroad bridges - show fence if required

___ Railroad bridges - add note stating fence type (curved - sidewalk/trail or straight – shoulder only)

1.16 Notes (as-needed)

___ "Non-Standard Abutment Wing Wall"

___ "Standard Bridge (Index No.)"

___ "TL - # Bridge Railing Proposed" (use for all bridges)

___ "2-Span Grading Shown" (see EW 203/204 - 5' offset)

___ "Top of bridge deck at centerline roadway is 'x' above (or below) the profile grade to account for deck cross slope and parabolic crown"

___ "Top of bridge deck crown 'X' below profile grade"

___ "Pier Type – (Frame, T, Pile Bent, Diaphram, etc)" Note if designed for collision force [BDM 6.6.2.6]

___ "Beam Type – (BTB, etc.) (AASHTO A, B, etc.) (WPG – include depth)

___ "Provide vent hole in beam"

___ "Class (B, E, etc) revetment stone is (embedded or non-embedded)". [BDM C3.2.7.3.3]

___ "Note to Final Design: As this project requires a sovereign lands permit, bid item reference notes shall restrict broken concrete as a substitute for revetment." [BDM 3.2.7.5]

1.17 Bridge Cross Section

___ Show bridge cross section – fully dimension, show lanes/shoulders/cross slopes/beams etc. (consultants only)

1.18 Miscellaneous

___ North arrow

___ Scale bar

___ Benchmark description

___ Border: "County", "Project No.", Sht. No. x of x"

___ Use current Micro Station CADD level/color schemes as shown on IaDOT's web site.

2. PLAN VIEW

___ 'Face to Face of Paving Notches' dimension shown

___ Proposed span lengths and total bridge length (centerline to centerline pier/abutment)

___ Proposed stations along centerline approach roadway at piers/abutments

___ Roadway designation(s)

___ Typical Approach Roadway Section - dimension lane/shoulder widths and show cross slopes

___ Berm slope armoring ~~Revetment~~ - Label type (revetment vs erosion stone) -and show offset limits from centerline approach roadway [BDM 3.2.7.3.5]

___ POT stationing of mainline roadway construction centerline and side-road intersection

___ Skew angle – show actual in plan view and design skew in Title Block to nearest degree

___ Minimum vertical clearance location

___ Minimum horizontal clearance dimension to pier

___ Label guardrail – "Guardrail"

___ Arrows for direction of traffic

___ ~~Slope protection – label, show type~~

___ Dimension variable width bridges at abutments

___ Bridge abutment wing wall dimension shown if non-standard length used

___ Structures with no side piers – dimension offset

___ Ground elevations preferred for bridges, label contours if used

___ Existing utilities, fence-lines, tiles (label fiber optic, gas line, etc.)

___ Existing structures (bridge, culverts), label - include description and design number

___ Proposed culverts near bridge – label type/size/location info

___ Dimension sideroad lane and shoulder widths

___ Proposed roadway embankment shaping

___ Proposed berm and channel shaping

___ Label all centerlines and profile grade lines

___ Label stationing on at least two "tic" marks in the plan view

___ Future work – label bike trail, ramps, etc (by others)

___ Stream name and direction of flow

___ Check text/dimensioning legible and not placed on top of other details

3. LONGITUDINAL SECTION

___ Bottom of footing elevation

___ Slope protection: label type, thickness ~~shown/labeled~~

___ Existing ground line and proposed grade line shown/labeled

___ Existing structure – substructure, piling (from as-built plans)

___ Berm slope labeled (2.5:1 max, Normal)

___ Vertical clearance – actual location and dimensoin

___ Top of berm elevation at abutments

___ Stream bed elevation

___ Q 'Design' water surface elevation without backwater

___ Scour elevation – 'Design' scour elevations

___ Abutment/pier deck elevations along the centerline of approach roadway